

Claims

1. A drive mechanism, in particular for a blanking  
5 and nibbling machine, comprising a hydraulic force  
transmitting element having a primary unit and a  
secondary unit that are executed with differential  
pistons whose large effective surfaces jointly define a  
cylinder chamber, and whose small effective surfaces each  
10 define one annular chamber, wherein the annular chambers  
are in hydraulic communication with each other, and  
comprising a spindle drive for driving the primary  
piston, wherein the secondary piston indirectly or  
directly acts on a workpiece to be attacked,  
15 characterized by a pre-tensioning means for subjecting  
the cylinder chamber to a pre-tensioning pressure.

2. The drive mechanism in accordance with claim 1,  
characterized in that the pre-tensioning means may be  
20 added on and deactivated through the intermediary of a  
pre-tensioning valve.

3. The drive mechanism in accordance with claim 1  
or 2, characterized in that the two annular chambers are  
25 in hydraulic communication with each other via a pressure  
line, with an adjusting valve for controlling this  
hydraulic connection open and closed being arranged in  
the pressure line.

30 4. The drive mechanism in accordance with any one  
of claims 1 to 3, characterized in that a path and/or  
pressure measuring system for detecting a relative  
position of the primary and secondary pistons and/or for  
detecting a pressure in the cylinder chamber is provided.

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5. The drive mechanism in accordance with any one  
of the preceding claims, characterized in that the  
cylinder chamber is in hydraulic communication with the  
annular chamber of the primary unit, wherein a  
5 displacement valve for controlling this hydraulic  
connection open or closed is provided.

6. The drive mechanism in accordance with any one  
of the preceding claims, characterized in that the pre-  
10 tensioning means is a hydraulic accumulator or a pump.

7. The drive mechanism in accordance with any one  
of the preceding claims, characterized in that a feed  
pump for supplying the hydraulic accumulator is provided,  
15 which is adapted to be driven by the secondary piston.

8. The drive mechanism in accordance with claim 7,  
characterized in that a pressure at the secondary piston  
acts via a spring on a plunger piston of the feed pump.  
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9. The drive mechanism in accordance with any one  
of the preceding claims, characterized in that several  
spindles are arranged in parallel.

25 10. The drive mechanism in accordance with any one  
of the preceding claims, characterized in that the  
cylinder housing of the primary unit is encompassed by  
the cylinder housing of the secondary unit.

30 11. The drive mechanism in accordance with claim  
10, characterized in that an end portion of the cylinder  
housing of the primary unit plunges into a recess of the  
secondary piston.

12. The drive mechanism in accordance with any one of the preceding claims, characterized in that the pressure medium is water.